

# Completed Return-On-Investment Project Case Study



United States Department of Energy  
Office of Environmental Management  
Fact Sheet

## Remote Surveillance Camera Savannah River Site, South Carolina

### Original Problem

The Coupling Operating Room (COR) in a plutonium processing facility is required to be manned 24 hours a day for immediate response to possible alarms located in this room. The COR room is posted as an Airborne Radioactivity Area (ARA) requiring the operators to wear either a mask or fresh air hood and 2 pair of coveralls. This operation generates approximately 20 cubic meters of low level waste annually. Several attempts were made to rollback the room to Radiological Buffer Area (RBA) status. But due to the age of the facility and containment cabinet design, it was not possible to consistently maintain this room as an RBA.



### The ROI Project Solution

SRS with EM-50 support designed, purchased, and installed remotely operated cameras in the room to monitor the alarms. This allows the operator to be stationed in the COR Airlock (which is an RBA) to control the cameras and respond to any alarms.

#### DOE Monetary Benefits

<b>Cost</b>	<b>\$18,000</b>
<b>Lifecycle Savings</b>	<b>\$2,100,000</b>
<b>Return on Investment</b>	<b>2,300 %</b>

### Value Of Improvement

This avoids stationing an operator 24-hours a day in the room resulting in savings of ~20 m3/yr of LLW (~\$81,400/yr). The total cost savings (labor, waste, materials, laundry, etc.) is ~\$424,000/yr. In addition, radiation exposure received from this room has been reduced by 4 Rem per year.

### Benefits At-A-Glance

- Reduces operator exposure by 4 REM per year
- Avoids ~20 m3 per year of LLW with a combined savings from waste, labor, PPE and laundry avoidance of \$424,000 per year

#### Lifecycle Waste Reduction

<b>Life Cycle Waste Reduction</b>	<b>100 m3</b>
<b>Operation Commencement Date</b>	<b>5/99</b>
<b>Project Useful Life (Years)</b>	<b>5 years</b>

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### Summary Data

<b>ROI Priority Area:</b>	<b>Newly Generated Waste</b>
<b>ROI Project Type:</b>	<b>Source Reduction</b>
<b>Project Cost:</b>	<b>\$18,000</b>
<b>Lifecycle Savings:</b>	<b>\$2,100,000</b>
<b>Implementing Group:</b>	EM, SRS Nuclear Material Stabilization Division
<b>Benefiting Group:</b>	EM, SRS Nuclear Material Stabilization Division
<b>Useful Life Years:</b>	<b>5 years</b>
<b>Return On Investment:</b>	<b>2,300 %</b>
<b>Lifecycle Waste Reduction:</b>	<b>100 m3</b>
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